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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/538,380	03/29/2000	Jennie Ching	1503P/BC999068	6677

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EXAMINER

ALI, SYED J

ART UNIT	PAPER NUMBER
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2127

DATE MAILED: 03/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<p align="center">Office Action Summary</p>	Application No. 09/538,380	Applicant(s) CHING ET AL.	
	Examiner Syed J Ali	Art Unit 2127	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 October 2004.
 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-10 and 12-23 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) ☒ Claim(s) 10,20 and 21 is/are allowed.
 6) ☒ Claim(s) 2-9 and 12-19 is/are rejected.
 7) ☒ Claim(s) 22 and 23 is/are objected to.
 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This office action is in response to the amendment filed October 25, 2004. Claims 2-10 and 12-23 are presented for examination.
2. The text of those sections of Title 35, U.S. code not included in this office action can be found in a prior office action.

Claim Rejections - 35 USC § 103

3. **Claims 2 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yasumura (USPN 6,192,363) in view of Sharma et al. (USPN 5,809,235) (hereinafter Sharma).**
4. As per claim 2, Yasumura teaches the invention as claimed, including a method for managing subsystem processes from a central site in a digital media distributor system, the method comprising:

utilizing a plurality of threads as a task manager and a main program thread of an operating system in a central site server of the digital media distributor (col. 4 lines 20-40; col. 4 lines 50-52; col. 4 line 61 - col. 5 line 10; col. 6 lines 29-38; Fig. 3 elements 32 and 35); and

autonomously controlling initiation and termination of one or more subsystem processes associated with data object transmissions of the digital media distributor with the task manager (col. 6 lines 44-60; col. 7 lines 21-50).

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5. Sharma teaches the invention as claimed, including utilizing a plurality of threads includes utilizing a main manager thread (col. 21 lines 39-59).

6. It would have been obvious to one of ordinary skill in the art to combine Yasumura with Sharma since the method of Yasumura, while clearly indicating that a plurality of threads controls the distribution of multimedia, and managing and controlling the threads (col. 4 lines 50-52), but fails to explicitly state how the threads are managed and controlled. Sharma provides a way of utilizing a management thread to control creation and deletion of threads (col. 21 lines 39-59).

7. As per claim 12, Yasumura teaches the invention as claimed, including a digital media distribution [DMD] system with centralized management of subsystem processes, the DMD system comprising:

a distribution network for data object transmission (Abstract lines 1-2);

a central site server (col. 6 lines 10-38), the central site server utilizing a plurality of threads for a task manager as a main program thread of an operating system (col. 4 lines 20-40; col. 4 lines 50-52; col. 4 line 61 - col. 5 line 10; col. 6 lines 29-38; Fig. 3 elements 32 and 35) for autonomous control of initiation and termination of one or more subsystem processes associated with data object transmission of the DMD system (col. 6 lines 44-60; col. 7 lines 21-50); and

a plurality of remote site servers for receiving data object transmissions from the central site server via the distribution network (col. 7 lines 21-50).

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8. Sharma teaches the invention as claimed, including the central site server utilizing a plurality of threads for a task manager includes utilizing a main manager thread (col. 21 lines 39-59).

9. **Claims 3 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yasumura in view of Sharma as applied to claims 2 and 12 above, respectively, and further in view of Dangelo et al. (USPN 5,907,494) (hereinafter Dangelo).**

10. As per claim 3, Dangelo teaches the invention as claimed, including the method of claim 2 wherein utilizing a plurality of threads further comprises utilizing a subsystem control thread as a child thread of the main manager thread (col. 6 lines 24-34).

11. It would have been obvious to one of ordinary skill in the art to combine Yasumura and Sharma with Dangelo since by allowing the execution of processes to be maintained by control threads rather than by the main manager thread, each type of thread can have a more specialized function. That is, the main manager thread is responsible for only creating and deleting threads as necessary, while the child threads manage memory allocation, execution of system tasks, etc. Additionally, the idea presented by Dangelo of spawning “child” threads to manage subtasks of the system is well established in the art, and is explained in detail by Dangelo.

12. As per claim 13, Dangelo teaches the invention as claimed, including the system of claim 12 wherein the central site server utilizes a subsystem control thread as a child thread of the main manager thread (col. 6 lines 24-34).

13. **Claims 4-6, 8-9, 14-16, and 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yasumura in view of Sharma in view of Dangelo as applied to claims 3 and 13 above, respectively, and further in view of Guedalia et al. (USPN 6,535,878) (hereinafter Guedalia).**

14. As per claim 4, Guedalia teaches the invention as claimed, including the method of claim 3 wherein utilizing a plurality of threads further comprises utilizing a watchdog worker thread as a child thread of the subsystem control thread (col. 10 lines 12-44).

15. It would have been obvious to one of ordinary skill in the art to combine Yasumura, Sharma, and Dangelo with Guedalia since it provides a way of monitoring thread creation and deletion, thereby providing programming flexibility as well as simpler memory management. The watchdog thread is used to create and delete threads at regular intervals, thereby keeping the number of threads in the thread pool constant, while also ensuring that all threads are given an adequate amount of service. This prevents common problems associated with threads, such as deadlock and starvation.

16. As per claim 5, Guedalia teaches the invention as claimed, including the method of claim 4 wherein utilizing a plurality of threads further comprises utilizing a spawn worker thread as a child thread of the watchdog worker thread (col. 10 lines 12-44).

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17. As per claim 6, Sharma teaches the invention as claimed, including the method of claim 5 further comprising utilizing one watchdog worker thread and one spawn worker thread for each subsystem process (col. 21 line 39 – col. 22 line 38).

18. It is noted that Sharma does not include watchdog threads for the management of each subsystem process. However, as discussed regarding claims 4 and 5, Guedalia teaches that a watchdog thread manages all of the thread creation of the system. This suggests that each subsystem process would then have one watchdog worker thread overseeing its execution, as claimed.

19. As per claim 8, Guedalia teaches the invention as claimed, including the method of claim 6 further comprising utilizing the watchdog worker thread to start each subsystem process through the spawn worker thread and to monitor performance of each subsystem process (col. 10 lines 12-44).

20. As per claim 9, Guedalia teaches the invention as claimed, including the method of claim 8 wherein utilizing the spawn worker thread further comprises spawning each subsystem process and waiting for termination of each spawned subsystem process (col. 10 lines 12-44).

21. As per claim 14, Guedalia teaches the invention as claimed, including the system of claim 13 wherein the central site server utilizes a watchdog worker thread as a child thread of the subsystem control thread (col. 10 lines 12-44).

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22. As per claim 15, Guedalia teaches the invention as claimed, including the system of claim 14 wherein the central site server utilizes a spawn worker thread as a child thread of the watchdog worker thread (col. 10 lines 12-44).

23. As per claim 16, Sharma teaches the invention as claimed, including the system of claim 15 wherein the central site server utilizes one watchdog worker thread and one spawn worker thread for each subsystem process (col. 21 line 39 - col. 22 line 38).

24. It is noted that Sharma does not include watchdog threads for the management of each subsystem process. However, as discussed regarding claims 4 and 5, Guedalia teaches that a watchdog thread manages all of the thread creation of the system. This suggests that each subsystem process would then have one watchdog worker thread overseeing its execution, as claimed.

25. As per claim 18, Guedalia teaches the invention as claimed, including the system of claim 16 wherein the central site server further utilizes the watchdog worker thread to start each subsystem process through the spawn worker thread and to monitor performance of each subsystem process (col. 10 lines 12-44).

26. As per claim 19, Guedalia teaches the invention as claimed, including the system of claim 18 wherein the central site server further utilizes the spawn worker thread for spawning each subsystem process and waiting for termination of each spawned subsystem process (col. 10 lines 12-44).

27. **Claims 7 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yasumura in view of Sharma in view of Dangelo as applied to claims 3 and 13 above, respectively, and further in view of Flenley et al. (USPN 6,405,317) (hereinafter Flenley).**

28. As per claim 7, Flenley teaches the invention as claimed, including the method of claim 3 further comprising utilizing the subsystem control thread to determine need for initiation of a subsystem process (col. 4 lines 11 –32).

29. It would have been obvious to one of ordinary skill in the art to combine Yasumura, Sharma, and Dangelo with Flenley since by making the control thread determine when an execution thread needs to be created, the system further breaks down tasks into smaller, more manageable tasks. The control thread thereby allocates an execution thread (similar to the thread pool discussed above) to handle any service requests, thereby creating a set of thread types, each with a very specific function, to modularize the functionality of the system, and thereby make it more manageable and customizable.

30. As per claim 17, Flenley teaches the invention as claimed, including the system of claim 13 wherein the central site server further utilizes the subsystem control thread to determine need for initiation of a subsystem process (col. 4 lines 11-32).

Allowable Subject Matter

31. **Claims 10 and 20-21 are allowed.**

32. **Claims 22 and 23 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.**

33. Applicant has amended claims 2 and 12 to include the feature of claim 20 relating to **“providing a task manager as a main program thread of an operating system.”** However, Examiner submits that this limitation is substantially similar to the limitations in claims 2 and 12 relating to **“utilizing a plurality of threads, including utilizing a main manager thread, as a task manager.”**

Claims 10 and 20-21 were indicated as being allowable because they discuss specific subsystem processes and states of operation that the task manager controls. Claims 22 and 23 contain similar limitations as have been indicated as allowable features in claim 20.

Conclusion

34. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

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CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Syed J Ali whose telephone number is (571) 272-3769. The examiner can normally be reached on Mon-Fri 8-5:30, 2nd Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai T An can be reached on (571) 272-3756. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Syed Ali
February 25, 2005



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